

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-2 (canceled)

1 **Claim 3 (currently amended):** ~~A~~ ~~The~~ relay apparatus as
2 ~~claimed in claim 2, further equipped with a function~~
3 ~~capable of canceling loop operation of a signal between a~~
4 ~~reception antenna and a transmission antenna, comprising:~~
5 a subtracting unit for subtracting a duplicated loop
6 signal from a received input signal which is produced by
7 containing loop waves in a desirable wave received via said
8 reception antenna;
9 a relay broadcasting unit for inputting the output
10 signal of said subtracting unit and for outputting a
11 broadcasting signal;
12 a signal processing unit for producing said duplicated
13 loop signal based upon any one of the input signal of said
14 relay broadcasting unit and the broadcasting signal
15 outputted from said relay broadcasting unit;
16 a variable phase shifting unit for varying a phase of
17 said duplicated loop signal which is produced by said
18 signal processing unit;
19 a local oscillation unit for producing a local
20 oscillation frequency signal;

21 a dividing unit for dividing said local oscillation
22 frequency signal;

23 a first frequency converting unit for
24 frequency-converting any one of the wireless frequency
25 signals corresponding to the input signal and the output
26 signal of said relay broadcasting unit into an intermediate
27 frequency signal by using one of said local oscillation
28 frequency signals divided by said dividing unit; and

29 a second frequency converting unit for
30 frequency-converting said duplicated loop signal which is
31 produced by said signal processing unit into a wireless
32 frequency signal by using the other local oscillation
33 frequency signal divided by said dividing unit,

34 wherein a said variable phase shifting unit adjusts
35 the phase of said duplicated loop signal so that a phase
36 error of said duplicated loop signal is corrected, and

37 wherein said variable phase unit is connected to any
38 one output side, or both output sides of said dividing
39 unit.

1 **Claim 4 (currently amended):** A ~~The~~ relay apparatus as
2 ~~claimed in claim 1, further equipped with a function~~
3 capable of canceling loop operation of a signal between a
4 reception antenna and a transmission antenna, comprising:
5 a subtracting unit for subtracting a duplicated loop
6 signal from a received input signal which includes loop

7 waves in a desirable wave received via said reception
8 antenna;
9 a relay broadcasting unit for inputting the output
10 signal of said subtracting unit and for outputting a
11 broadcasting signal;
12 a signal processing unit for producing said duplicated
13 loop signal based upon any one of the input signal of said
14 relay broadcasting unit and the broadcasting signal
15 outputted from said relay broadcasting unit;
16 a variable attenuating unit for varying a signal level
17 of said duplicated loop signal which is produced by said
18 signal processing unit; and
19 a signal level measuring unit for measuring a signal
20 level of the output of said subtracting unit,
21 wherein said variable attenuating unit adjusts the
22 signal level of said duplicated loop signal so that an
23 amplitude error of said duplicated loop signal is
24 corrected, and
25 wherein said variable attenuating unit adjusts the
26 signal level of said duplicated loop signal so that the
27 signal level of the output of said subtracting unit, which
28 is measured by said signal level measuring unit, becomes a
29 predetermined signal level.

1 **Claim 5 (currently amended):** ~~A~~ ~~The~~ relay apparatus as
2 ~~claimed in claim 2, further equipped with a function~~
3 ~~capable of canceling loop operation of a signal between a~~
4 ~~reception antenna and a transmission antenna, comprising:~~
5 a subtracting unit for subtracting a duplicated loop
6 signal from a received input signal which is produced by
7 containing loop waves in a desirable wave received via said
8 reception antenna;
9 a relay broadcasting unit for inputting the output
10 signal of said subtracting unit and for outputting a
11 broadcasting signal;
12 a signal processing unit for producing said duplicated
13 loop signal based upon any one of the input signal of said
14 relay broadcasting unit and the broadcasting signal
15 outputted from said relay broadcasting unit;
16 a variable phase shifting unit for varying a phase of
17 said duplicated loop signal which is produced by said
18 signal processing unit;
19 a signal level measuring unit for measuring a signal
20 level of the output of said subtracting unit,
21 wherein a said variable phase shifting unit adjusts
22 the phase of said duplicated loop signal so that a phase
23 error of said duplicated loop signal is corrected, and
24 wherein said variable phase shifting unit adjusts the
25 phase of said duplicated loop signal in such a manner that
26 the signal level of the output of said subtracting unit,

27 which is measured by said signal level measuring unit,
28 becomes a predetermined signal level.

1 **Claim 6 (currently amended):** ~~A~~ The relay apparatus as
2 ~~claimed in claim 1, further equipped with a function~~
3 ~~capable of canceling loop operation of a signal between a~~
4 ~~reception antenna and a transmission antenna, comprising:~~
5 a subtracting unit for subtracting a duplicated loop
6 signal from a received input signal which includes loop
7 waves in a desirable wave received via said reception
8 antenna;
9 a relay broadcasting unit for inputting the output
10 signal of said subtracting unit and for outputting a
11 broadcasting signal;
12 a signal processing unit for producing said duplicated
13 loop signal based upon any one of the input signal of said
14 relay broadcasting unit and the broadcasting signal
15 outputted from said relay broadcasting unit;
16 a variable attenuating unit for varying a signal level
17 of said duplicated loop signal which is produced by said
18 signal processing unit;
19 a receiving/demodulating unit for receiving said
20 broadcasting signal outputted from said relay broadcasting
21 unit and for demodulating said received broadcasting
22 signal; and

23 an error rate measuring unit for measuring an error
24 rate of said broadcasting signal which is demodulated by
25 said receiving/demodulating unit,

26 wherein said variable attenuating unit adjusts the
27 signal level of said duplicated loop signal so that an
28 amplitude error of said duplicated loop signal is
29 corrected, and

30 wherein said variable attenuating unit adjusts the
31 signal level of said duplicated loop signal in such a
32 manner that the error rate of said broadcasting signal
33 measured by said error rate measuring unit becomes lower
34 than, or equal to a predetermined value.

1 **Claim 7 (currently amended):** A ~~The~~ relay apparatus as
2 ~~claimed in claim 2, further equipped with a function~~
3 capable of canceling loop operation of a signal between a
4 reception antenna and a transmission antenna, comprising:
5 a subtracting unit for subtracting a duplicated loop
6 signal from a received input signal which is produced by
7 containing loop waves in a desirable wave received via said
8 reception antenna;
9 a relay broadcasting unit for inputting the output
10 signal of said subtracting unit and for outputting a
11 broadcasting signal;
12 a signal processing unit for producing said duplicated
13 loop signal based upon any one of the input signal of said

14 relay broadcasting unit and the broadcasting signal
15 outputted from said relay broadcasting unit;
16 _____ a variable phase shifting unit for varying a phase of
17 said duplicated loop signal which is produced by said
18 signal processing unit;
19 a receiving/demodulating unit for receiving said
20 broadcasting signal outputted from said relay broadcasting
21 unit and for demodulating said received broadcasting
22 signal; and
23 an error rate measuring unit for measuring an error
24 rate of said broadcasting signal which is demodulated by
25 said receiving/demodulating unit,
26 _____ wherein a said variable phase shifting unit adjusts
27 the phase of said duplicated loop signal so that a phase
28 error of said duplicated loop signal is corrected, and
29 wherein said variable phase shifting unit adjusts the
30 phase of said duplicated loop signal in such a manner that
31 the error rate of said broadcasting signal measured by said
32 error rate measuring unit becomes lower than, or equal to
33 a predetermined value.